```
==============================================================
Sequence Listing was accepted.
If you need help call the Patent Electronic Business Center at (866)
217-9197 (toll free).
Reviewer: Anne Corrigan
Timestamp: Wed Nov 14 14:45:15 EST 2007
==============================================================
```

Application No: 10567980   Version No: 2.0

                Input Set:

                Output Set:

            Started: 2007-10-29 14:29:03.314
           Finished: 2007-10-29 14:29:08.121
            Elapsed: 0 hr(s) 0 min(s) 4 sec(s) 807 ms
     Total Warnings: 101
       Total Errors: 0
No. of SeqIDs Defined: 101
  Actual SeqID Count: 101

Error code   Error Description

W   402   Undefined organism found in <213> in SEQ ID (1)

W   402   Undefined organism found in <213> in SEQ ID (2)

W   402   Undefined organism found in <213> in SEQ ID (3)

W   402   Undefined organism found in <213> in SEQ ID (4)

W   402   Undefined organism found in <213> in SEQ ID (5)

W   402   Undefined organism found in <213> in SEQ ID (6)

W   402   Undefined organism found in <213> in SEQ ID (7)

W   402   Undefined organism found in <213> in SEQ ID (8)

W   402   Undefined organism found in <213> in SEQ ID (9)

W   402   Undefined organism found in <213> in SEQ ID (10)

W   402   Undefined organism found in <213> in SEQ ID (11)

W   402   Undefined organism found in <213> in SEQ ID (12)

W   402   Undefined organism found in <213> in SEQ ID (13)

W   402   Undefined organism found in <213> in SEQ ID (14)

W   402   Undefined organism found in <213> in SEQ ID (15)

W   402   Undefined organism found in <213> in SEQ ID (16)

W   402   Undefined organism found in <213> in SEQ ID (17)

W   402   Undefined organism found in <213> in SEQ ID (18)

W   402   Undefined organism found in <213> in SEQ ID (19)

W   402   Undefined organism found in <213> in SEQ ID (20)

```
              Input Set:


             Output Set:



                Started:   2007-10-29 14:29:03.314
               Finished:   2007-10-29 14:29:08.121
                Elapsed:   0 hr(s) 0 min(s) 4 sec(s) 807 ms
         Total Warnings:   101
           Total Errors:   0
   No. of SeqIDs Defined:   101
     Actual SeqID Count:   101
```

Error code   Error Description

           This error has occured more than 20 times, will not be displayed

W   213   Artificial or Unknown found in <213> in SEQ ID (100)

W   213   Artificial or Unknown found in <213> in SEQ ID (101)

<400>   1
atg gaa aaa cga aaa gat aat gaa gaa gca aac aac tca ttg gag tca   48
Met Glu Lys Arg Lys Asp Asn Glu Glu Ala Asn Asn Ser Leu Glu Ser
1   5   10   15

ttt tct gct ctt cgc aag gat gct gcc aat gtt ctg gat ttc cta gag   96
Phe Ser Ala Leu Arg Lys Asp Ala Ala Asn Val Leu Asp Phe Leu Glu
            20   25   30

aga tta aag aat gaa gaa gat caa aag gct gtt gat gtg gat ctg att   144
Arg Leu Lys Asn Glu Glu Asp Gln Lys Ala Val Asp Val Asp Leu Ile
        35   40   45

gaa agc ctg aaa ttg aag ctg aca ttt att tgt aca tat gtc cag ctt   192
Glu Ser Leu Lys Leu Lys Leu Thr Phe Ile Cys Thr Tyr Val Gln Leu
    50   55   60

tct tat tcc gat ttg gag aag ttt gaa gat ata atg act aga aaa aga   240
Ser Tyr Ser Asp Leu Glu Lys Phe Glu Asp Ile Met Thr Arg Lys Arg
65   70   75   80

caa gag gtt gag aat ctg ctt caa cca att ttg gat gat gat ggc aaa   288

```
Gln Glu Val Glu Asn Leu Leu Gln Pro Ile Leu Asp Asp Asp Gly Lys
                85                  90                  95


gac gtc ggg tgt aaa tat gtc ctt act agc ctc gcc ggt aat atg gat      336
Asp Val Gly Cys Lys Tyr Val Leu Thr Ser Leu Ala Gly Asn Met Asp
            100                 105                 110


gac tgt ata agc ttg tat cat cgt tct aaa tca gat gcc acc atg atg      384
Asp Cys Ile Ser Leu Tyr His Arg Ser Lys Ser Asp Ala Thr Met Met
            115                 120                 125


gat gag caa ttg ggc ttc ctc ctc ttg aat ctc tct cat cta tcc aag      432
Asp Glu Gln Leu Gly Phe Leu Leu Leu Asn Leu Ser His Leu Ser Lys
        130                 135                 140


cat cgt gct gaa aag atg ttt cct gga gtg act caa tat gag gtt ctt      480
His Arg Ala Glu Lys Met Phe Pro Gly Val Thr Gln Tyr Glu Val Leu
145                 150                 155                 160


cag aat gta tgt ggc aac ata aga gat ttc cat gga ttg ata gtg aat      528
Gln Asn Val Cys Gly Asn Ile Arg Asp Phe His Gly Leu Ile Val Asn
                165                 170                 175


tgt tgc att aag cat gag atg gtt gag aat gtc tta tct ctg ttt caa      576
Cys Cys Ile Lys His Glu Met Val Glu Asn Val Leu Ser Leu Phe Gln
            180                 185                 190


ctg atg gct gag aga gta gga cgc ttc ctt tgg gag gat cag gct gat      624
Leu Met Ala Glu Arg Val Gly Arg Phe Leu Trp Glu Asp Gln Ala Asp
            195                 200                 205


gaa gac tct caa ctc tcc gag cta gat gag gat gat cag aat gat aaa      672
Glu Asp Ser Gln Leu Ser Glu Leu Asp Glu Asp Asp Gln Asn Asp Lys
        210                 215                 220


gac cct caa ctc ttc aag cta gca cat cta ctc ttg aag att gtt cca      720
Asp Pro Gln Leu Phe Lys Leu Ala His Leu Leu Leu Lys Ile Val Pro
225                 230                 235                 240


act gaa ttg gag gtt atg cac ata tgt tat aaa act ttg aaa gct tca      768
Thr Glu Leu Glu Val Met His Ile Cys Tyr Lys Thr Leu Lys Ala Ser
                245                 250                 255


act tca aca gaa att gga cgc ttc att aag aag ctc ctg gaa acc tct      816
Thr Ser Thr Glu Ile Gly Arg Phe Ile Lys Lys Leu Leu Glu Thr Ser
            260                 265                 270


ccg gac att ctc aga gaa tat ctg att cat cta caa gag cat atg ata      864
Pro Asp Ile Leu Arg Glu Tyr Leu Ile His Leu Gln Glu His Met Ile
            275                 280                 285


act gtt att acc cct aac act tca ggg gct cga aac att cat gtc atg      912
Thr Val Ile Thr Pro Asn Thr Ser Gly Ala Arg Asn Ile His Val Met
        290                 295                 300


atg gaa ttc cta ttg att att ctt tct gat atg ccg ccc aag gac ttt      960
Met Glu Phe Leu Leu Ile Ile Leu Ser Asp Met Pro Pro Lys Asp Phe
```

```
att cat cat gac aaa ctt ttt gat ctc ttg gct cgt gtt gta gca ctt    1008
Ile His His Asp Lys Leu Phe Asp Leu Leu Ala Arg Val Val Ala Leu
        325                330                335

acc agg gag gta tca act ctt gta cgc gac ttg gaa gag aaa tta agg    1056
Thr Arg Glu Val Ser Thr Leu Val Arg Asp Leu Glu Glu Lys Leu Arg
        340                345                350

att aaa gag agt act gac gaa aca aat tgt gca acc cta aag ttt ctg    1104
Ile Lys Glu Ser Thr Asp Glu Thr Asn Cys Ala Thr Leu Lys Phe Leu
        355                360                365

gaa aat att gaa ctc ctt aag gaa gat ctc aaa cat gtt tat ctg aaa    1152
Glu Asn Ile Glu Leu Leu Lys Glu Asp Leu Lys His Val Tyr Leu Lys
    370                375                380

gtc ccg gat tca tct caa tat tgc ttc ccc atg agt gat gga cct ctc    1200
Val Pro Asp Ser Ser Gln Tyr Cys Phe Pro Met Ser Asp Gly Pro Leu
385                390                395                400

ttc atg cat ctg cta cag aga cac tta gat gat ttg ctg gat tcc aat    1248
Phe Met His Leu Leu Gln Arg His Leu Asp Asp Leu Leu Asp Ser Asn
                405                410                415

gct tat tca att gct ttg ata aag gaa caa att ggg ctg gtg aaa gaa    1296
Ala Tyr Ser Ile Ala Leu Ile Lys Glu Gln Ile Gly Leu Val Lys Glu
                420                425                430

gac ttg gaa ttc ata aga tct ttt ttc gcg aat att gag caa gga ttg    1344
Asp Leu Glu Phe Ile Arg Ser Phe Phe Ala Asn Ile Glu Gln Gly Leu
        435                440                445

tat aaa gat ctc tgg gaa cgt gtt cta gat gtg gca tat gag gca aaa    1392
Tyr Lys Asp Leu Trp Glu Arg Val Leu Asp Val Ala Tyr Glu Ala Lys
    450                455                460

gat gtc ata gat tca att att gtt cga gat aat ggt ctc tta cat ctt    1440
Asp Val Ile Asp Ser Ile Ile Val Arg Asp Asn Gly Leu Leu His Leu
465                470                475                480

att ttc tca ctt ccc att acc aga aag aag atg atg ctt atc aaa gaa    1488
Ile Phe Ser Leu Pro Ile Thr Arg Lys Lys Met Met Leu Ile Lys Glu
                485                490                495

gag gtc tct gat tta cat gag aac att tcc aag aac aga ggt ctc atc    1536
Glu Val Ser Asp Leu His Glu Asn Ile Ser Lys Asn Arg Gly Leu Ile
                500                505                510

gtt gtg aac tct ccc aag aaa cca gtt gag agc aag tca ttg aca act    1584
Val Val Asn Ser Pro Lys Lys Pro Val Glu Ser Lys Ser Leu Thr Thr
                515                520                525

gat aaa ata att gta ggt ttt ggt gag gag aca aac ttg ata ctt aga    1632
Asp Lys Ile Ile Val Gly Phe Gly Glu Glu Thr Asn Leu Ile Leu Arg
        530                535                540
```

```
aag ctc acc agt gga ccg gca gat cta gat gtc att tcg atc att ggt        1680
Lys Leu Thr Ser Gly Pro Ala Asp Leu Asp Val Ile Ser Ile Ile Gly
545                     550             555                 560

atg ccg ggt tta ggt aaa act act ttg gcg tac aaa gta tac aat gat        1728
Met Pro Gly Leu Gly Lys Thr Thr Leu Ala Tyr Lys Val Tyr Asn Asp
                565             570             575

aaa tca gtt tct agc cat ttc gac ctt cgt gca tgg tgc acg gtc gac        1776
Lys Ser Val Ser Ser His Phe Asp Leu Arg Ala Trp Cys Thr Val Asp
            580             585             590

caa gta tat gac gag aag aag ttg ttg gat aaa att ttc aat caa gtt        1824
Gln Val Tyr Asp Glu Lys Lys Leu Leu Asp Lys Ile Phe Asn Gln Val
        595             600             605

agt gac tca aat tca aaa ttg agt gag aat att gat gtt gct gat aaa        1872
Ser Asp Ser Asn Ser Lys Leu Ser Glu Asn Ile Asp Val Ala Asp Lys
        610             615             620

cta cgg aaa caa ttg ttt gga aag agg tat ctt att gtc tta gat gac        1920
Leu Arg Lys Gln Leu Phe Gly Lys Arg Tyr Leu Ile Val Leu Asp Asp
625             630             635                 640

gtg tgg gat act aat aca tgg gat gag cta aca aga cct ttt cct gat        1968
Val Trp Asp Thr Asn Thr Trp Asp Glu Leu Thr Arg Pro Phe Pro Asp
                645             650             655

ggt atg aaa gga agt aga att att ttg aca act cga gaa aag aaa gtt        2016
Gly Met Lys Gly Ser Arg Ile Ile Leu Thr Thr Arg Glu Lys Lys Val
                660             665             670

gct ttg cat gga aag ctc tac act gat cct ctt aac ctt cga ttg cta        2064
Ala Leu His Gly Lys Leu Tyr Thr Asp Pro Leu Asn Leu Arg Leu Leu
            675             680             685

aga tca gaa gaa agt tgg gag tta tta gag aaa agg gca ttt gga aac        2112
Arg Ser Glu Glu Ser Trp Glu Leu Leu Glu Lys Arg Ala Phe Gly Asn
        690             695             700

gag agt tgc cct gat gaa cta ttg gat gtt ggt aaa gaa ata gcc gaa        2160
Glu Ser Cys Pro Asp Glu Leu Leu Asp Val Gly Lys Glu Ile Ala Glu
705             710             715                 720

aat tgt aaa ggg ctt cct ttg gtg gtg gat ctg att gct gga atc att        2208
Asn Cys Lys Gly Leu Pro Leu Val Val Asp Leu Ile Ala Gly Ile Ile
                725             730             735

gct ggg agg gaa aag aaa aag agt gtg tgg ctt gaa gtt gta aat aat        2256
Ala Gly Arg Glu Lys Lys Lys Ser Val Trp Leu Glu Val Val Asn Asn
                740             745             750

ttg cat tcc ttt att ttg aag aat gaa gtg gaa gtg atg aaa gtt ata        2304
Leu His Ser Phe Ile Leu Lys Asn Glu Val Glu Val Met Lys Val Ile
            755             760             765
```

```
gaa ata agt tat gac cac tta cct gat cac ctg aag cca tgc ttg ctg        2352
Glu Ile Ser Tyr Asp His Leu Pro Asp His Leu Lys Pro Cys Leu Leu
    770             775             780

tac ttt gca agt gcg ccg aag gac tgg gta acg aca atc cat gag ttg        2400
Tyr Phe Ala Ser Ala Pro Lys Asp Trp Val Thr Thr Ile His Glu Leu
785             790             795             800

aaa ctt att tgg ggt ttt gaa gga ttt gtg gaa aag aca gat atg aag        2448
Lys Leu Ile Trp Gly Phe Glu Gly Phe Val Glu Lys Thr Asp Met Lys
            805             810             815

agt ctg gaa gaa gtg gtg aaa att tat ttg gat gat tta att tcc agt        2496
Ser Leu Glu Glu Val Val Lys Ile Tyr Leu Asp Asp Leu Ile Ser Ser
            820             825             830

agc ttg gta att tgt ttc aat gag ata ggt gat tac cct act tgc caa        2544
Ser Leu Val Ile Cys Phe Asn Glu Ile Gly Asp Tyr Pro Thr Cys Gln
        835             840             845

ctt cat gat ctt gtg cat gac ttt tgt ttg ata aaa gca aga aag gaa        2592
Leu His Asp Leu Val His Asp Phe Cys Leu Ile Lys Ala Arg Lys Glu
    850             855             860

aag ttg tgt gat cgg ata agt tca agt gct cca tca gat ttg ttg cca        2640
Lys Leu Cys Asp Arg Ile Ser Ser Ser Ala Pro Ser Asp Leu Leu Pro
865             870             875             880

cgt caa att agc att gat tat gat gat gat gaa gag cac ttt ggg ctt        2688
Arg Gln Ile Ser Ile Asp Tyr Asp Asp Asp Glu Glu His Phe Gly Leu
            885             890             895

aat ttt gtc ctg ttc ggt tca aat aag aaa agg cat tcc ggt aaa cac        2736
Asn Phe Val Leu Phe Gly Ser Asn Lys Lys Arg His Ser Gly Lys His
        900             905             910

ctc tat tct ttg acc ata aat gga gat gag ctg gac gac cat ctt tct        2784
Leu Tyr Ser Leu Thr Ile Asn Gly Asp Glu Leu Asp Asp His Leu Ser
        915             920             925

gat aca ttt cat cta aga cac ttg agg ctt ctt aga acc ttg cac ctg        2832
Asp Thr Phe His Leu Arg His Leu Arg Leu Leu Arg Thr Leu His Leu
    930             935             940

gaa tcc tct ttt atc atg gtt aaa gat tct ttg ctg aat gaa ata tgc        2880
Glu Ser Ser Phe Ile Met Val Lys Asp Ser Leu Leu Asn Glu Ile Cys
945             950             955             960

atg ttg aat cat ttg agg tac tta agc att ggg aca gaa gtt aaa tct        2928
Met Leu Asn His Leu Arg Tyr Leu Ser Ile Gly Thr Glu Val Lys Ser
            965             970             975

ctg cct ttg tct ttc tca aac ctc tgg aat cta gaa atc ttg ttt gtg        2976
Leu Pro Leu Ser Phe Ser Asn Leu Trp Asn Leu Glu Ile Leu Phe Val
            980             985             990

gat aac aaa gaa tca acc ttg ata  cta tta ccg aga att  tgg gat ctt       3024
```

```
Asp Asn Lys Glu Ser Thr Leu Ile  Leu Leu Pro Arg Ile  Trp Asp Leu
        995                 1000                 1005


gta aag  ttg caa gtg ctg ttc  acg act gct tgt tct  ttc ttt gat      3069
Val Lys  Leu Gln Val Leu Phe  Thr Thr Ala Cys Ser  Phe Phe Asp
        1010                 1015                 1020


atg gat  gca gat gaa tca ata  ctg ata gca gag gac  aca aag tta      3114
Met Asp  Ala Asp Glu Ser Ile  Leu Ile Ala Glu Asp  Thr Lys Leu
        1025                 1030                 1035


gag aac  ttg aca gca tta ggg  gaa ctc gtg ctt tcc  tat tgg aaa      3159
Glu Asn  Leu Thr Ala Leu Gly  Glu Leu Val Leu Ser  Tyr Trp Lys
        1040                 1045                 1050


gat aca  gag gat att ttc aaa  agg ctt ccc aat ctt  caa gtg ctt      3204
Asp Thr  Glu Asp Ile Phe Lys  Arg Leu Pro Asn Leu  Gln Val Leu
        1055                 1060                 1065


cat ttc  aaa ctc aag gag tca  tgg gat tat tca aca  gag caa tat      3249
His Phe  Lys Leu Lys Glu Ser  Trp Asp Tyr Ser Thr  Glu Gln Tyr
        1070                 1075                 1080


tgg ttc  ccg aaa ttg gat ttc  cta act gaa cta gaa  aaa ctc act      3294
Trp Phe  Pro Lys Leu Asp Phe  Leu Thr Glu Leu Glu  Lys Leu Thr
        1085                 1090                 1095


gta gat  ttt gaa aga tca aac  aca aat gac agt ggg  tcc tct gca      3339
Val Asp  Phe Glu Arg Ser Asn  Thr Asn Asp Ser Gly  Ser Ser Ala
        1100                 1105                 1110


gcc ata  aat cgg cca tgg gat  ttt cac ttt cct tcg  agt ttg aaa      3384
Ala Ile  Asn Arg Pro Trp Asp  Phe His Phe Pro Ser  Ser Leu Lys
        1115                 1120                 1125


aga ttg  caa ttg cat gaa ttt  cct ctg aca tcc gat  tca cta tca      3429
Arg Leu  Gln Leu His Glu Phe  Pro Leu Thr Ser Asp  Ser Leu Ser
        1130                 1135                 1140


aca ata  gcg aga ctg ctg aac  ctt gaa gag ttg tac  ctt tat cgt      3474
Thr Ile  Ala Arg Leu Leu Asn  Leu Glu Glu Leu Tyr  Leu Tyr Arg
        1145                 1150                 1155


aca atc  atc cat ggg gaa gaa  tgg aac atg gga gaa  gaa gac acc      3519
Thr Ile  Ile His Gly Glu Glu  Trp Asn Met Gly Glu  Glu Asp Thr
        1160                 1165                 1170


ttt gag  aat ctc aaa tgt ttg  atg ttg agt caa gtg  att ctt tcc      3564
Phe Glu  Asn Leu Lys Cys Leu  Met Leu Ser Gln Val  Ile Leu Ser
        1175                 1180                 1185


aag tgg  gag gtt gga gag gaa  tct ttt ccc acg ctt  gag aaa tta      3609
Lys Trp  Glu Val Gly Glu Glu  Ser Phe Pro Thr Leu  Glu Lys Leu
        1190                 1195                 1200


gaa ctg  tcg gac tgt cat aat  ctt gag gag att ccg  tct agt ttt      3654
Glu Leu  Ser Asp Cys His Asn  Leu Glu Glu Ile Pro  Ser Ser Phe
```

ggg gat att tat tcc ttg aaa att atc ga